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Effect of Phenolic Compounds on Off-Odor Development and Oxidative Stability of Camel Meat during Refrigerated Storage

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Abstract : Impact of different natural antioxidants on lipid oxidation, microbial load and sensorial quality in ground camel meat (leg region) during 9 days of refrigerated storage were investigated. Control camel meat showed higher lipid oxidation products (Peroxide value and Thiobarbituric acid reactive substances (TBARS)) during the storage period. Upon addition of different natural antioxidants PV and TBARS were retarded, especially in samples added with tannic acid (TA), catechin (CT) and gallic acid (GA) ($p<0.05$). Haem iron content decreased with increasing storage period and was found to be lower in samples added with caffeic acid (CA) and gallic acid (GA) at the end of storage period ($p<0.05$). Furthermore, lower mesophilic bacterial count (MBC) and psychrophilic bacterial counts (PBC) were observed in TA and CT treated samples compared to control and other samples ($p<0.05$). Camel meat treated with TA and CT also received higher likeness scores for colour, odor and overall appearance compared to control samples ($p<0.05$). Therefore, adding different natural antioxidants especially TA and CT showed retarding effect on lipid oxidation and microbial growth and were also effective in maintaining sensory attributes (color and odor) of ground camel meat during storage at 4°C. Hence, TA and CT could be considered as the potential natural antioxidant for preserving the quality of the camel meat displayed at refrigerated shelves.

Keywords : natural antioxidants, lipid oxidation, quality, camel meat
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